SANTA CRUZ BIOTECHNOLOGY, INC.

EPC1 siRNA (m): sc-60590

BACKGROUND

Enhancer of Polycomb 1 (EPC1) is a member of the Polycomb group (PcG) proteins. EPC1 interacts with the transcriptional repressor E2F6. In proliferating cells, the proliferation-specific PcG, EZH2, associates with this E2F6-EPC1 complex, which may regulate genes required for cell cycle promotion. EPC1 also interacts with a member of the RING finger protein family (RFP), and this complex functions as a transcriptional repressor. Lastly, EPC1 is a component of the NuA4 histone acetyltransferase (HAT) complex, which transcriptionally activates certain genes by acetylation of Histones H4 and H2A. This acetylation may alter nucleosome-DNA interactions and promote interaction of the modified histones with other positive transcription regulators. The HAT complex may play a role in oncogene/proto-oncogene growth induction, tumor suppressor growth arrest, replicative senescence, apoptosis and DNA repair.

REFERENCES

1. Shimono, Y., et al. 2001. RET finger protein is a transcriptional repressor and interacts with enhancer of Polycomb that has dual transcriptional functions. J. Biol. Chem. 275: 39411-39419.
2. Tezel, G., et al. 2002. Role for O-glycosylation of RFP in the interaction with enhancer of Polycomb. Biochem. Biophys. Res. Commun. 290: 409-414.
3. Li, J., et al. 2004. Recombinant antigens for immunodiagnosis of cystic echinococcosis. Biol. Proced. Online 6: 67-77.
4. Doyon, Y., et al. 2004. Structural and functional conservation of the NuA4 histone acetyltransferase complex from yeast to humans. Mol. Cell. Biol. 24: 1884-1896.
5. Williams, N.E. 2004. The epiplasm gene EPC1 influences cell shape and cortical pattern in *Tetrahymena thermophila*. J. Eukaryot. Microbiol. 51: 201-206.
6. Attwooll, C., et al. 2005. A novel repressive E2F6 complex containing the Polycomb group protein, EPC1, that interacts with EZH2 in a proliferation-specific manner. J. Biol. Chem. 280: 1199-1208.
7. Matsuura, T., et al. 2005. PIAS p and transcriptional repressive activity of RET finger protein. Exp. Cell Res. 308: 65-77.

CHROMOSOMAL LOCATION

Genetic locus: Epc1 (mouse) mapping to 18 A1.

PRODUCT

EPC1 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EPC1 shRNA Plasmid (m): sc-60590-SH and EPC1 shRNA (m) Lentiviral Particles: sc-60590-V as alternate gene silencing products.

For independent verification of EPC1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-60590A, sc-60590B and sc-60590C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

EPC1 siRNA (m) is recommended for the inhibition of EPC1 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

EPC1 (D-6): sc-373840 is recommended as a control antibody for monitoring of EPC1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TNFα-IP 2 gene expression knockdown using RT-PCR Primer: TNFα-IP 2 (m)-PR: sc-45827-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.